FUJITSU

WMI Tutorial
DeskView Client Management using WMI

DeskView Client (DVC) Manageability software does provide several Windows Management Instrumentation (WMI) classes to manage Fujitsu Client Computing Devices. The purpose of this document is to provide some general information and give examples, how to make use of this classes. It does not replace the detail information included inside DeskView Client manual. The reader should have basic knowledge about administration, scripting, PowerShell and WMI.

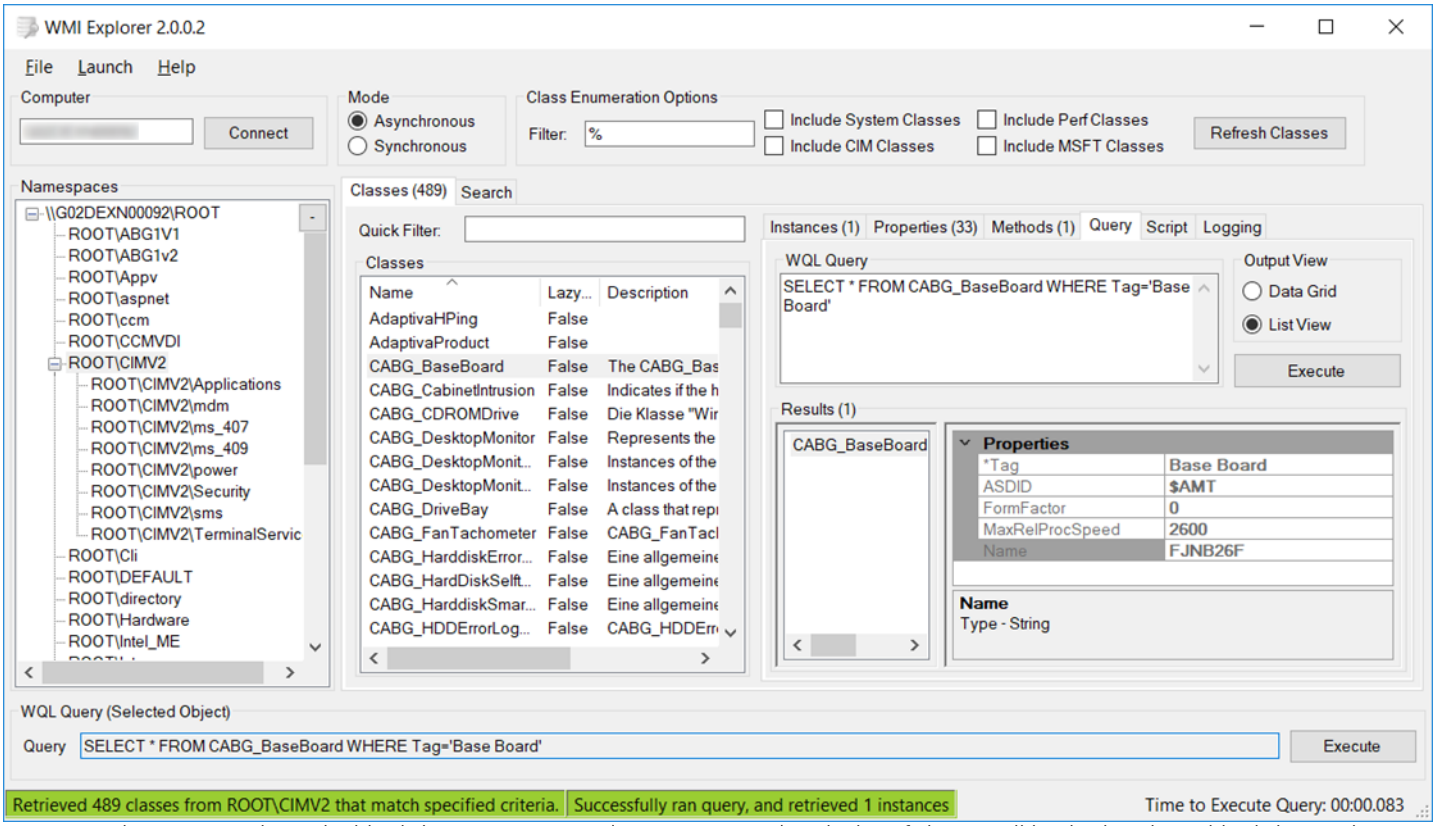
Inhalt

Preface: What is and why make use of WMI

WMI stands for Windows Management Instrumentation. It can be summarized by:
"*WMI has been the core management infrastructure for all Windows desktop and server operating systems beginning with Windows 2000. WMI is the Windows implementation of Web-Based Enterprise Management (WBEM). WBEM is a set of standards intended to provide the basis for cross-platform interoperability of technologies to exchange management data and access management interfaces across distributed computing environments*." (Quot. "Looking Inside System Center 2012 Configuration Manager" By Kerrie Meyler, Byron Holt, Marcus Oh, Jason Sandys, Greg Ramsey Published Jul 18, 2012 by Sams. Part of the Unleashed series.)

Nearly every management application does offer means to include individual WMI classes in their inventory, monitoring and scripting environment.
For detailed information about the WMI Classes implemented or provided with DeskView Client, review the relevant chapters inside the DeskView Client User Manual. Find download links at Additional Information.

To browse the various WMI namespaces and classes provided on a system in a graphical way, you can use the tool wbemtest.exe delivered with every Windows OS. A more comfortable and free tool is the tool WMI Explorer 2 from https://github.com/vinaypamnani/wmie2/releases



Connect to the target machine, double click on a namespace (e.g. ROOT\CIMV2) and a list of Classes will be displayed. Double click on a class (e.g. CABG_BaseBoard) to retrieve a list of instances. Select one instance and click on execute to view the information. Note that some information require administrator privileges to be retrieved.

For administrative purpose, managing a number of client computers, you will use scripts, e.g. PowerShell, .vbs and the integration of these in the diverse management systems like SCCM.

Download and Installation

You can install DeskView Client, using the msi package.
Find download links in the chapter "Additional Information".

Namespaces:

WMI classes reside in namespaces, a hierarchical structure like a path or base URL. One reason for that is to avoid name clashes. If a WMI class is derived from an existing one, it does use the parent classes namespace.
Most DVC WMI Classes are organized in functional groups (DV_Inventory, DV_BIOS, ...) under
root\ABG1V2
root\cimv2 does contain derived classes like *CABG_DesktopMonitorEnclosure* (including monitor serial number)
root\ABG1V1 is obsolete but kept for existing scripts. Instrumentation of these classes is not guaranteed to work in future releases.

Undocumented classes, events and filters

Crawling the namespaces you might find several WMI objects, not mentioned inside the manual. DeskView Client does make use of several WMI mechanisms internally. Changes of these might occur without further notice and it is not recommended to rely on their existence.

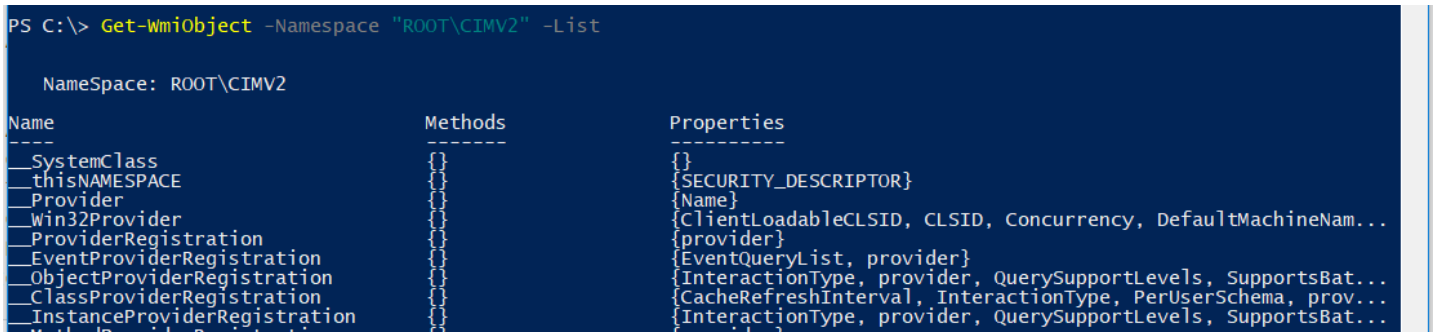
Samples:

Retrieving WMI information via PowerShell

Powershell offers the Get-WmiObject and Get-CimInstance commandlets.

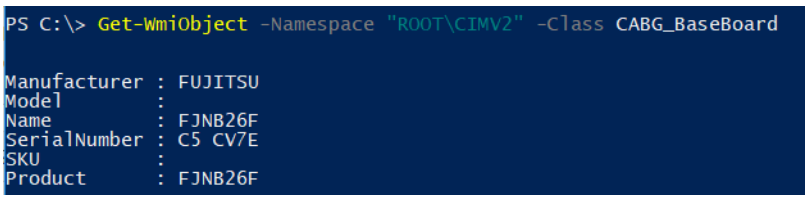
Get all classes in a namespace

```
Get-WmiObject –Namespace “ROOT\CIMV2” –List
```



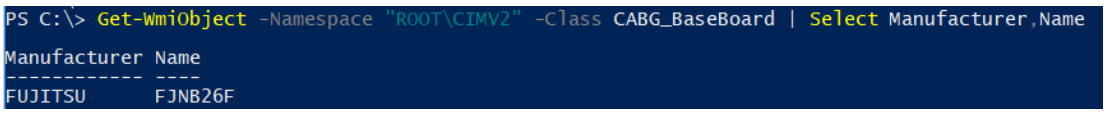
Get all properties of all class instances of a single class

```
Get-WmiObject –Namespace “ROOT\CIMV2” –Class CABG_BaseBoard
```



Select 2 properties of all class instances of a single class

```
Get-WmiObject –Namespace “ROOT\CIMV2” –Class CABG_BaseBoard | Select Manufacturer,Name
```

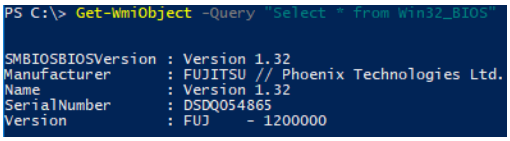


Some basic queries (classes are described in the DeskView Client manual):

Get BIOS information	Get-WmiObject -Namespace "ROOT\CIMV2" -Class Win32_BIOS
Get system and domain name info	Get-WmiObject -Namespace "ROOT\CIMV2" -Class Win32_ComputerSystem
Get disk info	Get-WmiObject -Namespace "ROOT\CIMV2" -Class Win32_DiskDrive
Get installed software	Get-WmiObject -Namespace "ROOT\CIMV2" -Class CABG_Product
Get memory info	Get-WmiObject -Namespace "ROOT\CIMV2" -Class CABG_PhysicalMemory
Get os information	Get-WmiObject -Namespace "ROOT\CIMV2" -Class CABG_OperatingSystem
Get device information	Get-WmiObject -Namespace "ROOT\ABG1v2\DV_Inventory" -Class CABG_SystemDevice

You can also get the information using the WQL (SQL for WMI)

```
Get-WmiObject -Query "Select * from Win32_BIOS"
```



For a list of standard classes refer to: https://msdn.microsoft.com/en-us/library/aa394572(v=vs.85).aspx

Use WQL in SCCM sample

https://www.vmadmin.co.uk/microsoft/64-mssystemcenter/353-sccmwmicwmiquerydrivers

Query WMI if BIOS Passwords are set, using PowerShell:

```
powershell.exe get-ciminstance -Namespace root/abg1v2/dv_BIOS -ClassName cabg_biospassword
```

will produce a list of BIOS Setup, User and Harddisk password information.
To query just the information, if the BIOS Setup Password is set, returning Boolean true or false:

```
powershell.exe (Get-CimInstance -Query "Select * from cabg_biospassword where InstanceID='Fujitsu:AdminPassword'" -
Namespace root/ABG1V2/DV_Bios).IsSet
```

Query Temperaturesensors using Visual Basic Script:

Create a .vbs file with :

```
Set objWMIService = GetObject("winmgmts:!\root\cimv2")
Set colInstances = objWMIService.ExecQuery("SELECT * FROM cabg_temperatureprobe")
For Each objInstance In colInstances
   WScript.Echo objInstance.GetObjectText_()
Next
```

Run with doubleclick or cscript.exe from an commandline

Check CMOS Battery Voltage using PowerShell:

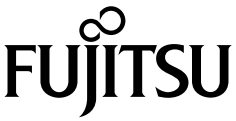
Inside Powershell commandline or .ps1 file use:

```
$B = Get-CimInstance -Namespace root/CIMV2 -ClassName CABG_VoltageProbe -Filter "Description='Battery Voltage Sensor'" |
select Description,CurrentReading
Write-Output $B
Pause
```

Note: Not every FUJITSU CCD system does have a dedicated cmos voltage sensor. Advanced ESPRIMO and CELSIUS do, mobile systems like LIFEBOOK do not.

Additional Information:

Detailed information
http://ts.fujitsu.com/Manageability
Manageability Solutions , DeskView Downloads, DeskView Client User Manual:
https://www.fujitsu.com/fts/solutions/business-technology/manageability/downloads/index.html
Client Computing Devices Support:
https://support.ts.fujitsu.com/Index.asp?lng=&OICOpen=ClientComputing



Published by / Contact address in the EU
Fujitsu Technology Solutions GmbH
Mies-van-der-Rohe-Straße 8 80807
Munich, Germany
http://www.fujitsu.com/fts/

Publication Date
03/2020